

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**RESPONSE UNDER RULE 116
EXPEDITED HANDLING PROCEDURES**

In re Patent Application of

NAKATSU et al

Serial No. 09/373,544

Filed: August 13, 1999

Title: SEMICONDUCTOR LIGHT-EMITTING DIODE



Atty Dkt. 829-522

C#/M#

Group Art Unit: 2811

Examiner: Donghee Kang.

Date: October 11, 2002

RECEIVED
OCT 16 2002
TECHNOLOGY CENTER 2800

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

RESPONSE/AMENDMENT/LETTER

This is a response/amendment/letter in the above-identified application and includes an attachment which is hereby incorporated by reference and the signature below serves as the signature to the attachment in the absence of any other signature thereon.

Fees are attached as calculated below:

Total effective claims after amendment	16	minus highest number		
Previously paid for	20	(at least 20) =	0 x \$ 18.00	\$ 0.00

Independent claims after amendment	4	minus highest number		
Previously paid for	4	(at least 3) =	0 x \$ 84.00	\$ 0.00

If proper multiple dependent claims now added for first time, add \$280.00 (ignore improper)	\$ 0.00
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Petition is hereby made to extend the current due date so as to cover the filing date of this Paper and attachment(s) (\$110.00/1 month; \$400.00/2 months; \$920.00/3 months)	\$ 0.00
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Terminal disclaimer enclosed, add \$ 110.00	\$ 0.00
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<input type="checkbox"/> First/second submission after Final Rejection pursuant to 37 CFR 1.129(a) (\$740.00)	\$ 0.00
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☐ Please enter the previously unentered, filed

☐ Submission attached

SUBTOTAL \$ 0.00

If "small entity," then enter half (1/2) of subtotal and subtract	-\$ 0.00
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☐ Applicant claims "small entity" status. ☐ Statement filed herewith

Rule 56 Information Disclosure Statement Filing Fee (\$180.00)	\$ 0.00
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Assignment Recording Fee (\$40.00)	\$ 0.00
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Other:	0.00
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TOTAL FEE ENCLOSED \$ 0.00

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140. A duplicate copy of this sheet is attached.

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NIXON & VANDERHYE P.C.

By Atty.: H. Warren Burnam, Jr., Reg. No. 29,366

Signature: 



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For: SEMICONDUCTOR LIGHT-EMITTING DIODE

* * * * *

Assistant Commissioner for Patents
**BOX AF - AFTER FINAL EXPEDITED
PROCESSING REQUESTED**
Washington, DC 20231

Sir:

REQUEST FOR RECONSIDERATION

Responsive to the Final Official Action dated July 17, 2002, please favorably consider the ensuing comments in conjunction with the patentability of the claims of the above-identified application. None of the claims are amended in response to the Final Action.

Applicants thank the Examiner for the indication of allowable subject matter in claims 5 - 10. However, for reasons including those set forth below, Applicants believe that they are entitled to the full scope of protection sought by all pending claims.

In reviewing briefly the status of the rejected claims, claims 11 and 15 stand rejected under 35 USC §102(e) as being anticipated by U.S. Patent 5,008,718 to Fletcher et al. Claims 1, 3 12-13 and 16 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,008,718 to Fletcher et al. Claims 2, 4 and 14 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,008,718 to Fletcher et al in view of U.S. Patent 5,814,839 to Hosoba. All prior art rejections are respectfully traversed.

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Seg for
Decon.
J. Macinville
10/18/02

Applicants submit that the Final Office Action overlooks the fact that U.S. Patent 5,008,718 to Fletcher et al, which forms the primary basis for all prior art rejections, has already been defused for lacking an important aspect of the claimed invention. In particular, U.S. Patent 5,008,718 to Fletcher et al was applied by Examiner Mintel in the first Office Action mailed August 1, 2001. The November 1, 2001 Amendment rebutted the prior art rejections premised upon Fletcher. All independent claims (1, 11, 14, 15) require that current diffusion layer comprise an AlGaInP type compound semiconductor material. The Amendment filed on November 1, 2001 clearly pointed out that Fletcher does not teach, and indeed teaches away from, from using AlGaInP as a current diffusion layer. Subsequently, the Fletcher-based rejections were withdrawn and not reasserted in the following Office Action (mailed by the present examiner).

From a procedural aspect, Applicants submit that the earlier withdrawal of Fletcher with respect to essentially the same subject matter as presently claimed should be honored. In this regard, in the spirit of MPEP §706.04 full faith and credit should be given to the earlier withdrawal of the Fletcher-based rejection.

Substantively, the Fletcher-based rejections are erroneous for reasons including those already stated, as reiterated hereinafter.

The Examiner apparently views transparent window layer 24 of Fletcher as being tantamount to Applicant's current diffusion layer 10. But the November 1, 2001 Amendment established, among other things¹, that Fletcher does not teach using AlGaInP as a current diffusion layer.

¹ The November 1, 2002 Amendment also states the following: "Since Fletcher '233 discloses that the window layer is made of GaP, it teaches away from the claimed invention which requires that the current diffusion layer/window layer be made of AlGaInP. In fact, the construction of the light-emitting diode of Fletcher '233 is made by taking into account that the window layer be made of a III-V material different from AlGaInP. See, for example, the process steps as disclosed at col. 5, lines 33 through col. 6, lines 25. More importantly, portions of Fletcher '233 starting at col. 6, line 8 disclose that the "...GaP layer is grown at a much higher growth rate than the AlGaInP since dislocations in this layer are of little significant..." Therefore, substituting the window layer 24 made

In contrast to the claimed invention, Fletcher '233 discloses a light-emitting diode with an ... "an electrically conductive window layer 24 grown over p-type AlGaInP confining layer 23. The window layer 24 is a III-V semiconductor alloy different from AlGaInP..." (See Amendment of November 1, 2001, page 7).

Moreover, the very claim 8 of U.S. Patent 5,008,718 to Fletcher et al. which the Examiner now highlights clearly states that the transparent window layer is "of a semiconductor different from AlGaInP ... ". See also col. 3, lines 1 -5 of Fletcher, particularly lines 1 - 2 which state that [layer 24] "is a III-V semiconductor alloy different from AlGaInP ..." (emphasis supplied).

The Final Office Action appears to be focused primarily on the lattice-mismatch itself, and seems to have overlooked the more fundamental issue of the particular semiconductor material involved. Applicants submit that allegations in the Final Office Action concerning the lattice-mismatch are also incorrect, and reserve the right to traverse those erroneous allegations at a future time should such become necessary. But the defects of the final prior art rejections are so rudimentary that it is hoped that recognition of the oversight will be accompanied by a realization of the patentability of the pending independent claims, so that such arguments need not be presented at this time.

In view of the foregoing and other considerations, the Examiner has ample bases for withdrawing all rejections and for allowance of all pending claims. Accordingly, a formal indication of allowance is earnestly solicited.

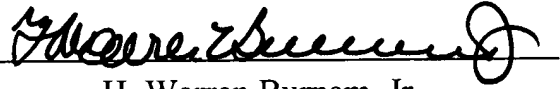
The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

of GaP with a AlGaInP layer would be against the teachings of Fletcher '233 as acknowledged at col. 3, lines 37-38 by Fletcher '233."

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 
H. Warren Burnam, Jr.
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